AMENDMENTS TO THE CLAIMS

Please cancel claims 1-74. Please add new claims 75-118.

Claims 1-74. **(Cancelled)**

75. A vector comprising a first polynucleotide sequence encoding an antibody in operable linkage with a second polynucleotide sequence encoding an anti-tumor protein, wherein said antibody binds 5T4 antigen on cells of a tumor, and wherein upon direct delivery of said vector to said tumor said anti-tumor protein is expressed in cells of said tumor thereby inhibiting the growth of said tumor.

76. The vector of claim 75, wherein said first and second polynucleotide sequences are expressed in the interior of a tumor mass.

77. The vector of claim 75, wherein said antibody comprises at least a part of an antibody sufficient to bind 5T4 antigen.

78. The vector of claim 75, wherein the first polynucleotide and the second polynucleotide are expressed as a fusion protein.

79. The vector of claim 78, wherein said fusion protein is secreted.

80. The vector of claim 75, wherein the first polynucleotide sequence, the second polynucleotide sequence, or both first and second polynucleotide sequences further comprises a polynucleotide sequence which encodes at least one additional functional component, wherein the additional functional component is selected from the group consisting of a signal peptide, an immune enhancer, a toxin, and a biologically active enzyme.

81. The vector of claim 75, wherein said antibody, said anti-tumor protein, or both said antibody and anti-tumor protein further comprises an additional functional component selected from the group consisting of a signal peptide, an immune enhancer, a toxin, and a biologically active enzyme.

82. The vector of claim 81, wherein the additional functional component is a signal peptide.

83. The vector of claim 75, wherein said vector is a retroviral vector.

84. The vector of claim 83, wherein said retroviral vector comprises a tumor specific promoter enhancer.

85. The vector of claim 75, wherein said anti-tumor protein is selected from the group consisting of an enzyme, a pro-drug activating enzyme, a toxin, all or part of a cytokine, an effector domain from an immunoglobulin heavy chain, a domain which activates macrophage FcgR I, II, or III receptors and a domain which confers protein stability.

86. A method of delivering an anti-tumor protein to a tumor, comprising directly delivering to the tumor the vector of claim 75.

87. A method of delivering an anti-tumor protein to a tumor, comprising directly delivering to the tumor cells transduced *ex vivo* with the vector of claim 75.

88. A method for inhibiting the growth of a tumor in a mammal comprising delivering directly to the tumor a vector comprising a first polynucleotide sequence encoding an antibody in operable linkage with a second polynucleotide sequence encoding an anti-tumor protein, wherein said antibody binds 5T4 antigen on cells of said tumor, and wherein said anti-tumor protein is expressed in cells of said tumor thereby inhibiting the growth of said tumor.

89. The method according to claim 88, wherein said first and second polynucleotide sequences are expressed in the interior of a tumor mass.

90. The method according to claim 88, wherein said antibody comprises at least a part of an antibody sufficient to bind 5T4 antigen.

91. The method according to claim 88, wherein the first polynucleotide and the second polynucleotide are expressed as a fusion protein.

92. The method according to claim 91, wherein said fusion protein is secreted.

93. The method according to claim 88, wherein the first polynucleotide sequence, the second polynucleotide sequence, or both first and second polynucleotide sequences further comprises a polynucleotide sequence which encodes at least one additional functional component, wherein the additional functional component is selected from the group consisting of a signal peptide, an immune enhancer, a toxin, and a biologically active enzyme.

94. The method according to claim 88, wherein said antibody, said anti-tumor protein, or both said antibody and anti-tumor protein further comprises an additional functional component selected from the group consisting of a signal peptide, an immune enhancer, a toxin, and a biologically active enzyme.

95. The method according to claim 94, wherein the additional functional component is a signal peptide.

96. The method according to claim 88, wherein said vector is a retroviral vector.

97. The method according to claim 96, wherein said retroviral vector comprises a tumor specific promoter enhancer.

98. The method according to claim 88, wherein said anti-tumor protein is selected from the group consisting of an enzyme, a pro-drug activating enzyme, a toxin, all or part of a cytokine, an effector domain from an immunoglobulin heavy chain, a domain which

activates macrophage FegR I, II, or III receptors and a domain which confers protein stability.

99. A method for inhibiting the growth of a tumor in a mammal comprising delivering directly to the tumor cells transduced *ex vivo* with a vector comprising a polynucleotide sequence encoding an antibody in operable linkage with a second polynucleotide sequence encoding an anti-tumor protein, wherein said antibody binds 5T4 antigen on cells of said tumor, and wherein said anti-tumor protein is expressed in cells of said tumor thereby inhibiting the growth of said tumor.

100. A gene delivery system for targeting an anti-tumor gene to a tumor, wherein said gene delivery system comprises a vector comprising a first polynucleotide sequence encoding an antibody which binds 5T4 antigen on cells of a tumor and a second polynucleotide encoding an anti-tumor protein, wherein upon direct delivery of said vector to cells of a tumor said anti-tumor protein is expressed in cells of said tumor thereby inhibiting the growth of said tumor.

101. A vector comprising a polynucleotide sequence encoding an antibody which binds 5T4 antigen on a mammalian cell, wherein said polynucleotide sequence is operably linked to an expression regulatory element functional in a mammalian cell.

102. The vector of claim 101, wherein the mammalian cell is a tumor cell.

103. The vector of claim 102, wherein said expression regulatory element is a tumor specific promoter enhancer.

104. The vector of claim 101, wherein said polynucleotide sequence additionally comprises one or more effector domains selected from the group consisting of an enzyme, a pro-drug activating enzyme, a toxin, all or part of a cytokine, an effector domain of an immunoglobulin heavy chain, a domain which activates macrophage FegR I, II, or III receptors, and a domain which confers protein stability.

105. The vector of claim 103, wherein said polynucleotide encodes a fusion protein.

106. The vector of claim 104, wherein said fusion protein is secreted.

107. A method for expressing a polynucleotide sequence in a mammalian cell in culture, comprising delivering to said mammalian cell a vector comprising a polynucleotide sequence encoding an antibody which binds 5T4 antigen on a mammalian cell in operable linkage with an expression regulatory element functional in a mammalian cell, wherein said polynucleotide sequence is expressed in said mammalian cell.

108. The method according to claim 107, wherein said polynucleotide sequence is expressed in and recovered from said mammalian cell.

109. The method according to claim 107, wherein said polynucleotide sequence additionally comprises one or more effector domains selected from the group consisting of an

enzyme, a pro-drug activating enzyme, a toxin, all or part of a cytokine, an effector domain of an immunoglobulin heavy chain, a domain which activates macrophage FcgR I, II, or III receptors, and a domain which confers protein stability.

110. The method according to claim 107, wherein said polynucleotide encodes a fusion protein.

111. The method according to claim 107, wherein said fusion protein is secreted.

112. A method of treating cancer in a mammal, comprising administering directly to a tumor in said mammal a vector comprising one or more polynucleotide sequences encoding an antibody which binds 5T4 antigen on a tumor cell in said mammal in operable linkage with one or more polynucleotide sequences encoding a cytokine, wherein the polynucleotide sequences are expressed as a fusion protein in a tumor cell in said mammal thereby inhibiting growth of said tumor in said mammal.

113. The method according to claim 112, wherein said fusion protein is secreted.

114. A method of treating cancer in a mammal, comprising administering directly to a tumor in said mammal a cytokine and a vector comprising one or more polynucleotide sequences encoding an antibody which binds 5T4 antigen on a tumor cell in said mammal, wherein the one or more polynucleotide sequences are expressed as a fusion protein in a tumor cell in said mammal thereby inhibiting growth of said tumor in said mammal.

115. The method according to claim 114, wherein said fusion protein is secreted.

116. A method for inhibiting the growth of a tumor in a mammal comprising delivering directly to a first cell of the tumor a vector comprising a first polynucleotide sequence encoding an antibody in operable linkage with a second polynucleotide sequence encoding an anti-tumor protein, wherein said antibody binds 5T4 antigen on cells of said tumor, and wherein said anti-tumor protein is expressed in said first cell of said tumor and a second neighboring cell of said tumor, thereby inhibiting the growth of said tumor.

117. The method according to claim 116, wherein said first and second polynucleotide sequences encode a fusion protein.

118. The method according to claim 119, wherein said fusion protein is secreted.